

Date: Thu, 22 Sep 94 04:30:30 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #281
To: Ham-Homebrew

Ham-Homebrew Digest Thu, 22 Sep 94 Volume 94 : Issue 281

Today's Topics:

 Hi Z Probe 50 mhz Freq Counter
 New walkmans have AM-Wide
 Overtone crytal filters
 Plans for 2m 50W solid state amp?

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 21 Sep 94 21:45:55 GMT
From: news-mail-gateway@ucsd.edu
Subject: Hi Z Probe 50 mhz Freq Counter
To: ham-homebrew@ucsd.edu

>bob.berlyn.303@chowda.com writes: (50 mhz frequency Counter)
>I have found plans for a 50 Mhz autograging frequency counter....
>
>...The circuit's sensitivity is about 100 mV RMS
>at frequencies from 100 Hz to 2 Mhz, and decreasing to about
>800 mv RMS at 50 Mhz.

>>"John F. Woods" <jfw@ksr.com> answers: (re: 50 mhz frequency counter)

>>at 800mV sensitivity, it's probably good enough to check out VF0s and
>>such. If you need more sensitivity, an MAR amplifier will run about
>> \$1? in your next order to your favorite surplus shop.

====

Can someone give a few more details about using a counter with a 50 ohm input Z and an add-on MAR to measure smaller RF signals such as an NE-602 LO on pin 3 or 4, using the internal transistor in a parallel tuned Colpitts (46 mhz)? My counter has <1mv rms 10 - 600 mhz sensitivity, so adding a MAR amp may not be necessary. My counter already has 4 MAR-6's at the 50 ohm input. I suspect a (wide band) Hi-Impedance probe is what is needed for this measurement. Please comment.

I've not been able to use the 50 ohm input of my counter to measure the NE-602 LO frequency or the LO on similar mixer IC's. I assume the RF levels are too small or that the LO stalls due to the low impedance, or both.

Can someone suggestion a probe scheme to add to my 50 ohm input counter to help measure applications like this NE-602 LO? The counter is capable of measuring to 2.4 ghz. So, the added circuit(s) need to match most of that frequency range.

Another Counter

I would appreciate recommendations for a good USED freq counter, for use in my home workshop and ham station. Please include brand names and models that have worked well for you folks. Prefer instrument that WILL NOT display when input signal is too low for stable readings.

Must be able to check timebase against WWV.
I want .2 ppm timebase but small budget says I'll settle for looser.
Want 2 ghz upper limit and 10 digits display if possible.

73 and thanks,
Dave w6mik

--

Internet : dshalita@rogue.com
AMPR.ORG :lp.w6mik.ampr.org [44.16.0.29]
AMPR.ORG :w6mik.ampr.org [44.16.0.26]
7833 Cantaloupe Ave. Van Nuys, CA 91402

Date: Thu, 15 Sep 1994 16:32:07 GMT
From: (null)@oddjob.uchicago.edu@network.ucsd.edu
Subject: New walkmans have AM-Wide
To: ham-homebrew@ucsd.edu

The reason the radio covers 1.7Mhz and beyond is because they were made

for the Japanese home market and the MW / AM band is extended to 1.7MHz
or possibly even higher there.

Amazing but true!

oddjob@cix.compulink.co.uk

Date: 21 Sep 94 14:56:59 GMT
From: news-mail-gateway@ucsd.edu
Subject: Overtone crytal filters
To: ham-homebrew@ucsd.edu

Ian:

I ran a quick check on the equivalent circuit of a microprocessor crystal in overtone mode. It was a 2.457 MHz crystal. The equivalent circuit at 2.45 MHz showed an equivalent series R of about 4 ohms. At 7.3 MHz it showed an equivalent R of 3K ohms. The overtone resonance is measurable in this crystal but probably not very useful.

Perhaps Zack Lau has some experience with typical equivalent circuits for overtone crystals. I would assume that a crystal specifically intended for overtone work would have better responses. I called Jan Crystal and the very helpful lady said that a 45 MHz crystal would typically have about 40 Ohms of series resistance. This value would probably allow building a filter with reasonable insertion loss if about a 100 to 200 Ohm impedance is selected. The problem here of course is that you would have to special order the crystals, and by the time you purchased enough crystals for reasonable response, you could probably purchase a commercial filter for the same cost.

At \$3 (US) fairly high frequency microprocessor crystals are the only ones that make any sense to me for this kind of application. This allows you to buy enough of them to get a matched set. The highest frequency I have tried is 16 MHz.

Ray Mack
WD5IFS
mack@mails.imed.com

Date: 21 Sep 1994 17:11 CST
From: dog.ee.lbl.gov!overload.lbl.gov!dancer.ca.sandia.gov!cronkite.nersc.gov!
fastrac.llnl.gov!lll-winken.llnl.gov!uwm.edu!psuvax1!news.pop.psu.edu!
news.cac.psu.edu!howland.@@ihnp4.ucsd.edu

Subject: Plans for 2m 50W solid state amp?
To: ham-homebrew@ucsd.edu

I am looking for information or plans for building a 50W solid state amp for use in the 2m or 2m/440 bands. I am interested both in complete circuit diagrams or suggestions for power transistors that I can use to build these amps. Any information would be appreciated. Thanks.

Jay Porter
Texas A&M University
j-porter@tamu.edu

Date: Wed, 21 Sep 1994 14:42:51 GMT
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!howland.reston.ans.net!cs.utexas.edu!
utnut!nott!cunews!freenet.carleton.ca!FreeNet.Carleton.CA!ae517@network.ucsd.edu
To: ham-homebrew@ucsd.edu

References <1994Sep17.221056.23096@wb3ffv.wb3ffv.ampr.org>,
<1994Sep20.134027.17693@arrl.org>, <CwFwuA.96u@odin.corp.sgi.com>e
Reply-To : ae517@FreeNet.Carleton.CA (Russ Renaud)
Subject : Re: Reuse surface mount parts?

In a previous article, charlos@rivm.nl (Charlos Potma) says:

>I believe it was in RadCom that I saw a simple method to remove surface
>mounted IC's. If you can push a thin wire under the IC, fix one end
>somewhere on the board (solder...) and then pull the wire against the inner
>side of the IC legs while at the same time applying your soldering iron
>to each successive leg. As the solder melts you pull the wire through thus
>loosening the leg from the board. I have not tried this myself but perhaps
>it is worth a try if you want to exchange one or more IC's on the board.
>You >have< to be able to slide the wire under the IC though...

Heat guns sold at the hardware store to strip paint, etc are generally hot enough to melt solder. On old single sided boards, I lever up the IC with a very thin screwdriver, heat the trace side of the board up with the heat gun, and can usually strip an entire board in half an hour.

I wouldn't want to try this method on boards with components on both sides, however. 8^)

73 de va3rr/aa8lu

Date: Wed, 21 Sep 1994 09:33:25 GMT
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!howland.reston.ans.net!EU.net!sun4n1!
rivm!charlos@network.ucsd.edu
To: ham-homebrew@ucsd.edu

References <1994Sep17.221056.23096@wb3ffv.wb3ffv.ampr.org>,
<1994Sep20.134027.17693@arrl.org>, <CwFwuA.96u@odin.corp.sgi.com>
Subject : Re: Reuse surface mount parts?

chuck adams (adams@chuck.dallas.sgi.com) wrote:
: In article <1994Sep20.134027.17693@arrl.org>, zlau@arrl.org (Zack Lau (KH6CP))
writes:

: ...stuff deleted...
: |> No, this isn't the way to remove them. You want lots of heat and solder

: Reminds me of an article in V1#1 of Byte Magazine on salvaging computer
: parts from old computers. This was in the 1975 timeframe. The author
: used a torch on the bottom side of the board until the IC dropped or
: used channel-lock (tm?) pliers to hold IC until it would come out. :-)
: ...more stuff deleted...

I believe it was in RadCom that I saw a simple method to remove surface
mounted IC's. If you can push a thin wire under the IC, fix one end
somewhere on the board (solder...) and then pull the wire against the inner
side of the IC legs while at the same time applying your soldering iron
to each successive leg. As the solder melts you pull the wire through thus
loosening the leg from the board. I have not tried this myself but perhaps
it is worth a try if you want to exchange one or more IC's on the board.
You >have< to be able to slide the wire under the IC though...

I don't know if this description makes any sense, English is not
what I speak daily.

73 from PA3CKR
Charlos Potma
charlos@rivm.nl

End of Ham-Homebrew Digest V94 #281
